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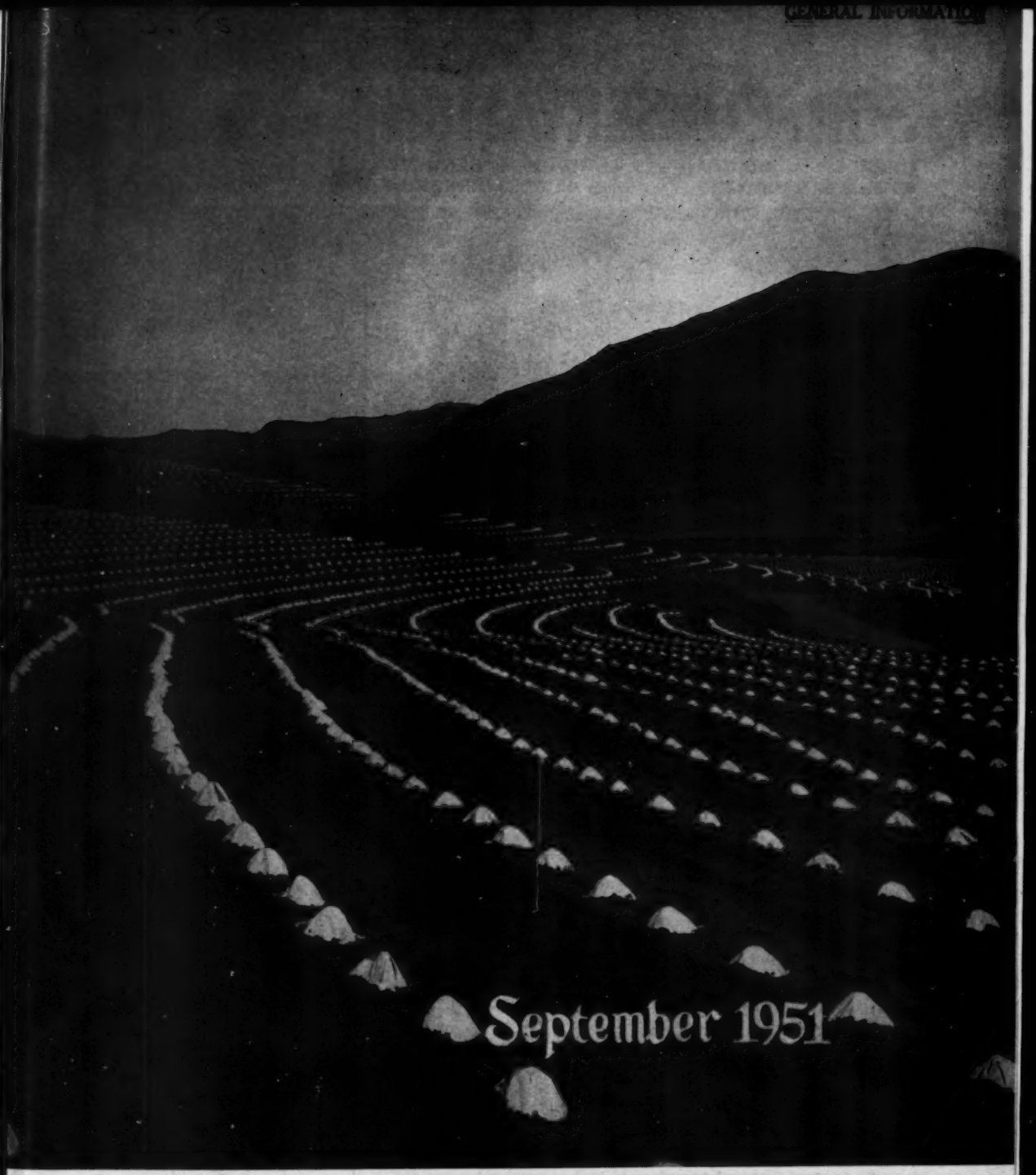

September 1951

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SECRETARY OF AGRICULTURE

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☆ THIS MONTH ☆

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WELLINGTON BRINK
Editor
Art Work by
W. HOWARD MARTIN

SOIL CONSERVATION is published by direction of the Secretary of Agriculture as administrative information required for proper transaction of the public business, with approval of the Director of the Budget. SOIL CONSERVATION supplies information for workers of the Department of Agriculture and others engaged in soil conservation.

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SPORTSMEN AND FARMERS WORK TOGETHER.—In the Texas woodlands near Palestine and Crockett, the Anderson-Houston Soil Conservation District is working hard at a wildlife program aimed at better hunting, improved soil conditions, and closer hunter-farmer relationships.

The project won first place over strong competition from a half dozen other districts in the wildlife conservation division of the *Fort Worth Press* "Save the Soil and Save Texas" 1951 awards program. To the district went a beautifully engraved bronze plaque, about dinner-plate size, given by the Wildlife Management Institute.

The district program has resulted in cooperative agreements with landowners planning more than 7,000 acres for wildlife

(Continued on page 46)

FRONT COVER.—Early tomatoes are planted under hot caps in the Middle San Luis Rey Soil Conservation District, Calif. The field shown on the cover is part of the 3,000 acres of contoured truck crops grown in this district, 1,800 of which are in tomatoes. The sloping hillside seen here is typical of the frost-free land on which San Diego farmers can produce off-season crops. The photograph was made by Robert B. Branstead.

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A MAIL CARRIER WHO DELIVERS THE CONSERVATION MESSAGE

George Bennett delivers mail and also asks farmer Oscar Lovdal about his conservation practices.

By GREGORY G. CURTIS

FOR some 30 years George S. Bennett has been carrying Uncle Sam's mail over Southbury rural route 2, in New Haven County, Conn. Three hundred families depend on him, 6 days a week, for prompt and safe delivery of letters, parcels, and papers.

In the tradition of the postal service, George Bennett has faithfully carried on his job in a spirit that has built close relationships along the 31.2 miles of his route. Out of the respect and confidence so created, he has developed his pet hobby —conservation of soil, water, woods, and wildlife— with outstanding success during the past decade.

Largely through Bennett's spare-time activities, on a personal basis as well as through facilities of the Woodbury Rod and Gun Club, Inc., in which he is "Mr. Conservation," 315 club members and hundreds of others are really doing something to protect natural resources on 51,000 rural acres. As a result—

25 farmers have been interested in operating under complete conservation farm plans.

54,000 tree seedlings, shrubs, and cuttings have been planted for wildlife feed and cover.

Note.—The author is work unit conservationist, Soil Conservation Service, New Haven, Conn.

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Experimental work has been started with nuts, shrubs, and other plantings never before grown in the area.

More than 100 feeding stations and feed hoppers, and 4 duck nest boxes, have been built and placed, and many feed patches ranging from one-eighth to three-fourths acre have been established.

200 pheasants have been raised in the club's holding pens, and with 300 more have been released each year in the woods by the State Board of Fisheries and Game.

3,000 fish, obtained annually from the same State source, have been planted in streams.

Stream pollution has been vigorously fought.

A scholarship has been awarded annually to the Conservation Workshop, University of Connecticut.

Through participation in this program in 1950, 160 different persons in the Woodbury-Southbury area were active in advancing conservation.

In appreciation of all this, and more, the Woodbury Rod and Gun Club at the 1950 annual dinner of the State Natural Resources Council received, by unanimous vote, the Connecticut Outdoor Writers' "Guardian of Natural Resources" award as "the group that contributed most to our soil, water, and forest resources."

George Bennett sparks these things, and leads others into helping him get the jobs done, for more reasons than that he, personally, likes to hunt and fish. Principally, he does a tremendous amount of this work merely because he likes to do it. He also appreciates the values that fertile soil, plenty of pure water, healthy woods, and abundant wildlife contribute to good living and to the future of the country. He also wants to help landowners who permit hunters, fishermen, and outdoor enthusiasts to go on their land.

In a continuous program now entering its eleventh year under Bennett's leadership, his deep and moving concern for the area's natural resources is found in the club's intelligent and successful approach to wildlife conservation. The club's conservation committee assists nature by functioning on a "put and take" basis. It exchanges feed, shelter, and sanctuary needed by birds, animals, and fish for expanded hunting opportunities. Wildlife flourishes; there is no depletion problem.

"Mr. Conservation" has convinced fellow members that it is wise to use some of the club's funds to improve shelter and feed facilities for wildlife. With unanimous backing, he has drawn on game, tree, and shrub planting stock at the State Board of Fisheries and Game, at nurseries of the Soil Conservation Service, and other sources.

When the available free supply of plantings has been insufficient, the club has voted funds for purchases. In some instances, landowners have been interested in paying for unusual and hard-to-get shrubs, nuts, and seedlings, such as Korean nut pine, the thornless honeylocust, Chinese chestnuts, and pinyon nuts. Donations from outside friends have helped the club carry on this work.

Right now George is trying out the buffaloberry to determine if it will fit into Connecticut's wildlife program. Sometimes such experiments are unsuccessful, but confidence in his leadership is such that it brings the voting of club funds for the work.

Heading up all conservation work for the Woodbury club is a personal responsibility that George Bennett takes seriously. With great care the committee finds landowners interested in making plantings, obtains and delivers supplies to them, and checks first on plantings and then on year-to-year growth.

George spreads the supply thinly, giving as few as one and very seldom more than 100 plantings to any individual. And when he finds, in his regular inspections, that plantings are not made or cared for, he is reluctant to allot more stock to the same person. When plantings fail for natural reasons, replacements are made.

George teaches his fellow conservationists to graft flowering crab cuttings on wild apple seedlings, and how to build feed hoppers and establish feeding stations and patches. Last fall he coaxed 50 people into working on, and making donations to, the club exhibit at the Pomperaug grange fair.

The systematic way in which he moves through his off-hours job and keeps closely detailed records of what, how, when, and where everything is done is found in the steps he took to get the conservation story before local farmers.

In three meetings held by groups of farmers at the Bennett home, Charles N. Hammarlund, Jr., SCS technician, told the story of the New Haven County Soil Conservation District and how it is set up to help farmers fight erosion, understand the capabilities of their land, and make the best use of

each acre without impairing productiveness. Applications for 25 complete farm plans came out of these meetings. Now, more conferences are in the making which presumably will lead still other farmers to ask for conservation planning.

George started life on a Southbury farm. He left home in his teens, when he got a chance to be chauffeur for a New York family summering in Connecticut. Tiring of big-town life, heavy demands on his time, and long trips away from home after he married, he returned to Connecticut during World War I and worked in defense plants until the end of the emergency. While his family was growing and work was not steady, before he became a rural mail carrier in 1921, George bought a gun and began hunting during free hours to help supply the family table.

It was in these years that he noted more and more hunters from other parts of the State. This, he found, was because game populations in their home areas had been depleted by pressure of too many hunters. It seemed likely that the same sort of thing would happen in Woodbury and Southbury if protective action were not taken. So he began to read and study conservation, with accent on wildlife.

Out of it, in 1935, came his membership in the club which is now 30 years old. In 1941 the club started its first conservation program with one item, the planting of 2,000 red pine seedlings. That's all that was done that year, but ever since, there has been a sharp annual step-up in application. In 1950 the club—

Planted 1,000 hemlock, 2,000 multiflora rose, 50 Korean nut pines, 1,000 Norway spruce, 1,000 white pine, 1,000 red pine, 250 basket willow, 200 highbush honeysuckle, 202 Chinese chestnuts, 500 Siberian flowering crabs, 730 Amur privet, 500 autumn Elaeagnus, and 12 thornless honeylocust.

Established 6 feed patches of buckwheat and lespedeza.

Encouraged 80 people to plant pinyon nuts on an experimental basis, and 3 men to graft Floribunda flowering crabs on 45 wild apple seedlings.

Sponsored a scholarship at the Conservation Workshop, University of Connecticut.

Introduced 25 farm families to the New Haven County Soil Conservation District and the Soil Conservation Service for technical advice on their conservation problems.

Won the Connecticut Outdoor Writers' "Guardian of Natural Resources" award, and received honorable mention in the annual conservation project award at the Fourteenth National Sportsmen's Show in New York City.

At their own home, Mr. and Mrs. Bennett practice all that he preaches to his multitude of friends along route 2. They provide a wide variety of feed and shelter for wildlife, have a small pond, and are preparing to build another in combination with a trout pool.

Last year, when an SCS technician had no place to plant two dozen Chinese chestnuts that were a problem because the roots were severely damaged by mice, George volunteered to take the lot. He cleaned them, nursed them along, planted them in his nursery, and has 20 of them flourishing.

George has planted many types of trees and shrubs in his yard because he believes it is good conservation to do so—an auxiliary to plantings in field and woods—and because it will let others become acquainted with different trees and shrubs. Songbirds, pheasants, squirrels, and rabbits make themselves at home at his very doorstep.

George has won the support of many influential people who live roundabout, among them being Gladys Taber who often writes about George in her monthly column in the *Ladies Home Journal.*

LUPINE BOOSTS YIELDS.—E. H. Thomas, district supervisor for the Flint River Soil Conservation District, Mitchell County, Ga., says that blue lupine has become a "must" for farmers in his county. One of his neighbors, Glenn West, more than doubled his corn yield last year and increased his peanut yield from 700 to 1 200 pounds. Another neighbor, David Harrell, who couldn't grow oats after continuous peanuts, produced 55 bushels of oats to the acre after turning under two crops of lupine. Lupine also greatly increases the growth of Bermuda-grass pasture. James Davis planted lupine on a 14-acre Bermuda pasture and grazed 25 cows on the area from June until October.

WATER EXPERT.—Homer Wells, who has been with the Soil Conservation Service for 7 years, retired June 30. He is one of the world's leading hydrologists and knows the hydrologic characteristics of this country as do few others. He has agreed, after a few months' rest, to help the Service on special jobs from time to time as a consultant.

GOOD LAND USE MAY MEAN GROWING BAIT

By JIMMIE P. MAXWELL

WILLIAM A. DRIGGERS, known by his friends as "Mr. William," is the minnow king of northwest Louisiana. He has a 150-acre farm near Saline. His land was poor for ordinary crops—eroded, depleted, a poor prospect as a family farm.

The one resource he had in abundance was water—good water that surged from a number of underground springs. The water was going to waste—running away. Why, he asked, should he not rest the cropland for a while and put the water to work?

I suggested something like this to Driggers in discussing his conservation program. Such a course would ease the pressure on the weakened soil and give Driggers a better chance to treat his cropland according to its needs.

Minnow production would be both safe and profitable, we felt. Such an enterprise would be in keeping, too, with the fundamental principle of using the land according to its capabilities and treating it according to its needs. I also pointed out that in addition to technical assistance on other parts of his coordinated program, he would receive help from the Soil Conservation Service in the proper techniques of land preparation and minnow-pond management.

When Driggers dug his first minnow pond, he started a trend. There were others in the same locality with lots of spring water that was going to waste. They, too, started digging minnow ponds. And today they have a thriving business—minnows by the millions! From them they are making either a good living or a handsome secondary income. The farmers work together, exchange ideas. But Mr. William is the recognized oracle, the consultant, the man who pioneered.

Records show that the little fish are paying big dividends. Driggers launched his minnow business in 1948 with 2 ponds embracing only a tenth of an acre. His crop that year totaled 20,000 minnows. From that beginning he enlarged his operation to 20 ponds covering more than 3½ acres.

The 400,000 minnows from Driggers' 1950 crop grossed him about $4,000. Most of them he sells at wholesale to large-scale bait dealers. "One minnow, one penny" is his charge.

He realizes additional pocket money from sales to the numerous Izaak Waltons of northwest Louisiana who drop by his minnow farm for a "mess of Leapin' Lenas, Mr. William." The Leapin' Lenas, as the golden shiners are called locally, cost the anglers 2 cents each when purchased thus at retail.

Mr. William and his family depend now on minnows supplemented by cash from selective cuttings of the native pines which cover much of his farm.

"I'd say $4,000 a year off 3½ acres is commonsense conservation," remarked a neighbor. Few there are who would disagree.

Like Driggers, other farmers of the area who took to raising minnows belong to the Saline Soil Conservation District. They all receive technical help from the Soil Conservation Service.

Clarence Knotts, whose 490 acres adjoin the Driggers property, is one of them. He operates a successful pole and piling business. But by using underground water, and relying on assistance from his experienced neighbor, Knotts developed 16 minnow ponds, and last year he marketed 300,000 golden shiners from them. He's now expanding his

Note.—The author is work unit conservationist, Soil Conservation Service, Jennings, La.

Olen Brewton fills tank in his pick-up truck with water for 800 minnows he is buying from William Driggers for his fisherman's place at Saline Lake.

William (right) and his brother Albert seine pond on Driggers farm.

unique operation to 2,000,000 minnows annually.

Knotts will testify that the minnow business amounts to more than just sitting back and waiting for them to multiply. A heavy rain in the spring of 1950 washed nearly 100,000 minnows out the spillway from one of his larger ponds. Knotts estimated his loss at close to $1,000.

The farm pond on Ray Huckaby's place near Bienville, La., is well stocked with fish. But many times Huckaby made the 40-mile round trip from his farm to Driggers' for a bucket of minnows that he might fish in his own pond.

The trips meant lost time and money. So last February Huckaby made one more trip to Mr. William's minnow farm. This time he bought shiners to stock three minnow ponds he had constructed on his own farm. "I may go commercial," Huckaby says. "This minnow business looks good to me." He already has laid out three additional ponds.

Other minnow raisers in the Saline Soil Conservation District are Americus Rhodes, his brother, J. W. Rhodes, and D. B. Caldwell.

Interest in the bait business has been increasing. Supply and demand indicate this is perhaps an opportune time for launching a minnow venture. The fisherman's seine won't dip as many minnows from a Louisiana river now as it would several years ago. Some States forbid seining creeks and rivers.

The tyro minnow farmer, though, is due for some surprises. He'll learn, for example, that a good minnow pond, like a good pasture, requires proper fertilization. He'll find that slaked lime applications are needed to clear badly muddied ponds.

He'll see that well-fertilized ponds will produce about 300 pounds of minnows per surface acre, and he'll discover, too, that the surface area of his pond is what counts—a farmer can grow about as many minnows in a 1-acre pond 3 feet deep as he can in a 1-acre pond 30 feet deep.

The minnow beginner will find that what the little fish eat is important. SCS biologists say 1 pound of vegetable food to 2 pounds of animal food is an ideal balance for winter feeding. Little feeding is necessary in summer; proper fertilization will produce enough plant food during the warm months.

There must be protection from preying snakes, frogs, and coons. Gophers will demand attention, too; their burrowing has drained many a minnow pond.

More important, though, the novice can discover that proper use of soil and water conservation knowledge will enable a man to take a decent living from less than 5 acres of farm land.

FESCUE POPULARITY GROWS. — Increasing popularity of tall fescue is indicated in a report from Tennessee on the 1950 "Keep Tennessee Green" program, sponsored by the Tennessee extension service. Seed dealers' reports show that 1,945,420 pounds of tall fescue seed were sold to farmers as compared with 2,052,420 pounds of orchardgrass seed, a favorite of many years' standing.

DISTRICT PROFILE

FRANK B. LINN of ALASKA

Frank B. Linn.

In a farming land where a soil auger will bring up frost in July and where herds of moose walk over fences in the winter, Frank B. Linn, of Alaska, is giving strong leadership to the cause of conservation.

Frank Linn came to Alaska in 1927 from Manhattan, Kans. He worked for 3 years as a dairyman on the Matanuska Experiment Station and three more years as superintendent of the Fairbanks Experiment Station. He then tried mining for a couple of years, which shows that Linn is a normal Alaskan in all respects.

Two years cured Frank of the mining fever and sent him back to the farm. This time it was farming for himself in the Matanuska Valley near Palmer. This was shortly after the colony was established.

Frank took over two 40-acre farms when they were abandoned by colonists, and has since added another 80 acres to make a quarter section, which he devotes to dairying.

Farm development in Alaska is a slow process. Every acre must be cleared of timber. Since 1935 Frank has cleared 70 acres and put them in crops. Twenty acres suitable for rotated crops still remain to be cleared. Linn plans to keep the rest of his farm in pasture and a wood lot for firewood and fence posts.

A dairy herd of 20 milkers was built up as land was cleared. By careful culling, it has been improved to a good cross between Holsteins and Guernseys, with Holstein predominating. In recent years, as Red Dane bulls and artificial insemination came to the Valley, Frank Linn, with other Alaska farmers, has been working toward a Holstein-Dane cross that looks very good. This is a cooperative enterprise between Alaska farmers and the Agricultural Research Administration.

Frank was the first Matanuska Valley farmer to apply the principles of rotation grazing of pastures.

He has three partners: his wife Vera; his son Allan, a senior at the Washington State College; and his daughter Mary Ann, now a freshman at Washington State. Mrs. Linn has a full-time status. Besides driving trucks and tractors and tending 300 chickens, she somehow finds time to serve on the school board and keep up on scientific developments in farming.

Frank has been active in community service for many years. He served for some time as a member of the board of directors of the Matanuska Valley Farmers Cooperative Association and on the advisory committee for Farmers Home Administration.

On the creation of the Alaska Soil Conservation District in 1947, Linn was appointed to the Alaska Soil Conservation Board and has been chairman of that body ever since. Under his leadership, subdistricts have been created in most of the more promising agricultural areas of the Territory.

Many promising areas of Alaska are in the development stage, but much of the Territory is an unknown quantity insofar as agriculture is concerned. One of the first objectives of the Alaska Soil Conservation District is a physical land inventory of all accessible areas as a basis for guiding settlement. Frank and the other members of the conservation board strongly believe that this agricultural land inventory should be kept ahead of settlement and that unsuitable land should not be made available for agricultural settlement.

The inventory will be useful also to road-building agencies in planning new highways and access roads.

Frank is a firm believer in the agricultural future of Alaska. The other members of the board, Virgil Eckert of Palmer and Bert Stimple of Fairbanks, share his views. Under Frank Linn's leadership, the Alaska Soil Conservation Board is mak-

ing sound progress with conservation farming. It is hoped, by sound planning and preventive measures during development, to avoid having to undertake costly corrective measures in years to come.

—CHARLES W. WILSON.

DISTRICT PROFILE

ORRELL of ARKANSAS

Archie Orrell is one of those farmers who look on grass as agriculture's most important crop.

"It brought me out of the depression," he avers.

In 1932 Orrell and his wife had only $35. Their uphill climb, a story chiefly of hard work, had its beginning when they put down that amount as a first payment on nine dairy cows.

Three years later they had built up the herd to 20 cows and moved into their present home near Hot Springs.

"The place wasn't much to look at," this Arkansas farmer recalls. "The buildings were in as bad shape as the land, which was the most run-down piece of dirt in the whole countryside. That's when I began with grass."

Orrell first put 75 of his 140 acres in Bermudagrass.

"That cut down erosion and gave good summer grazing," he says. "Then I got interested in cool-season pasture."

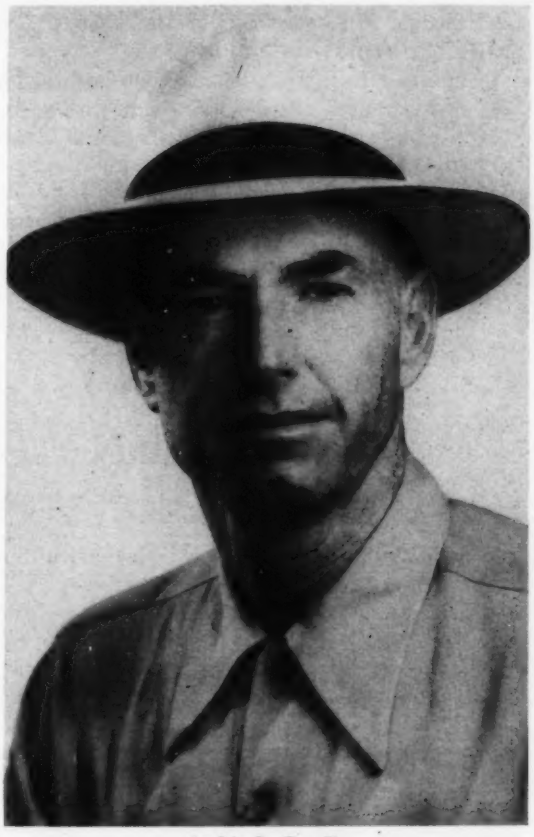
One of the first cooperators with the Lake Hamilton Soil Conservation District, Orrell got good help from SCS technicians. He entered on tall fescue grass, Ladino clover, and crimson clover, and soon he was on the way to a year-round grazing program.

"One of these days I expect to have this whole place in grass and legumes," he said then.

It was no idle chatter. Orrell has continued to move forward. He has added clover and more grass, until now the entire farm is covered with the exception of 5 acres left in trees. And even that supports a good growth of Bermuda.

Orrell has always taken time to help other people with conservation. He has been a supervisor of his district since its organization in 1941.

Success hasn't erased the memories of the early days. "That was when every nickel really counted," he says. "The money we got for milk products each day was spent for feed to use that night and the next morning. One day, on the way home from town, I lost a sack of feed from my truck and almost had to close up because I had nothing to feed the cattle the next morning."



Archie L. Orrell.

During those first years on the farm the Orrells tore down the dilapidated structures and began building a home.

"As soon as it was nearly enough completed to keep us dry, we moved in," Archie recalls. "It was 2 or 3 years later before the house was actually finished. And even then, it had no conveniences."

The house now is a modern cottage-type building, heated with butane gas and fully equipped with electrical conveniences.

"I think we've got about everything now you could find in any modern home in the city," Orrell says.

After 15 years of dairying, he switched to beef.

"I thought it might mean a better living for my family," he explained. And so it has.

Including calves, he now has 85 head of cattle. His "creep feeder," a fenced-in trough with openings only large enough to admit calves up to a certain size, has proved a money maker. Orrell's calves, born early in the spring, are fattened during the off season and sold the following spring for top prices.

He estimates it costs about $7 per 100 pounds to fatten calves through the "creeper" system. They usually weigh about 500 pounds when sold to a Hot Springs slaughterhouse.

Mr. and Mrs. Orrell have two daughters. Despite family and district demands on his time, Orrell is active in the Garland County Farm Bureau, the Walnut Ridge Masonic Lodge, the Antioch Baptist Church, the Garland County school board, and the Parent-Teacher Association.

—Dewey S. Thomason, Sr.

EVERY VO-AG BOY A CONSERVATION FARMER

By ROY BALLARD

CHAMPION C. COLES, vocational agriculture teacher at the Salem (N. J.) High School, had a deep interest in soil and water conservation even before Salem County was included in the South Jersey Soil Conservation District. And he was delighted, on returning from military service, to find an active work unit on the job. He decided to do what he could to train every one of his vocational agriculture boys to be a conservation farmer.

Note.—When he wrote this article the author was Salem County work unit leader for Soil Conservation Service, working with the South Jersey Soil Conservation District, Salem, N. J.

Soils group in vo-ag class, with Coles and Ballard, first examines enlarged land-use map of Lockman farm in Quinton Township. The map was prepared by Paul Lockman as a class assignment.

At the Lockman farm. Coles, left; Ballard, right. Others: George Schrier, Warren Master, Paul Lockman, Clifton Burkentine, Ben Haynes, Robert Stoms.

Coles labored unceasingly for the development of his idea and now has a program of which he justly can be proud, one that is worthy of emulation by other vocational agriculture teachers and work unit leaders.

The Coles program did not come overnight. It was the result of hard work. From a modest beginning, he proceeded step by step.

The first year, a few conservation films were shown to the boys. Next year, arrangements were made for field trips so the boys could actually see conservation measures in the field. The third year, the class members were given an opportunity to assist in the establishment of conservation measures on cooperators' farms. Now, they have come to a place where they cooperate in preparing a complete conservation program on each of their home farms.

For a more detailed picture of the training program, let us look at the set-up this last year. The preparation of a complete conservation plan on the home farm of each of the boys was made the basis for the teaching in Coles' entire agriculture department. The program was started with the sophomore class, which was composed of the following boys: Clifton Burkentine, Russell Fithian, Ben Haynes, Paul Lockman, William Loper, Warren Master, Bill McGowan, James Osborn, Shirley Powers, George Schrier, Robert Stoms, and William Willis. Special emphasis was on soils instruction. The dairy training of the junior year was dovetailed into the program, and the final summation was made with the farm-management work of the senior year.

To assist in the development of the project, various aids were made available through the cooperation of the Salem County work unit. Twenty-five conservation films were scheduled for showing. A general erosion map of the United States was supplied to each boy. In addition, a copy of each of the following Soil Conservation Service publications was added to each boy's library: *Youth Can Help Conserve These Resources, Soil, Water, Forests, Wildlife; Technical Skill for Soil and Water Conservation; Teamwork to Save Soil and Increase Production; Conquest of the Land Through Seven*

Thousand Years; The Future of Our American Land; Use of Woods That Are Commonly Wasted; Use the Land and Save the Soil; Taming Run-away Waters; and *Dust Storms Come from the Poorer Lands.*

Two field trips were arranged for the sophomore class as a unit. On the first trip the class visited the farms of two cooperators whose principal problem was erosion control. On the Leland Warner farm in Mannington Township, was observed a conservation program started 5 years ago with the following conservation measures now established: contour strip cropping, contour planting, crop rotations, cover cropping, vegetated waterways, diversion terraces, and reforestation. On the farm operated by Kelly Brothers in Pilesgrove Township, the boys saw a conservation plan that had been in operation for 2 years. There they made a study of the LUC map and learned why the Kelly boys had established such conservation practices as contour strip cropping, contour planting, crop rotations, cover cropping, vegetated waterways, diversions and outlets, and retirement to perennial hay of certain critical areas.

On the second field trip the boys visited two farms in Lower Alloways Creek Township recently purchased by Philip Gibison, where the difficulty was lack of proper drainage. There they had opportunity to see a conservation program in its initial stages. To correct poor drainage, an elaborate system of slightly over 5 miles of open field drains was planned. Arrangements were made for the boys to watch developments.

The boys were given an opportunity to display their initiative by preparing an enlarged LUC map of their home farms to be used for group discussion and study. Some of the lads enlisted their fathers in the program. As a result, conservation plans are being prepared on the farms owned or operated by the parents of Russell Fithian, Ben Haynes, Paul Lockman, William Loper, George Schrier, and Robert Stoms.

After carefully scrutinizing the LUC maps and becoming familiar with the information and problems of individual farms as shown by them, the group moves to the farms, where down-to-earth planning and establishment of program begins. With completion of such field work as surveying, selection of rotations, and arrangement of fields, the group returns to the classroom to make designs and add finishing touches to the conservation plan. Close contact with parents is maintained. When a plan is completed, a boy assumes the responsibility of getting his parents' signatures.

By cooperating with parents, teacher, and work unit leader, the boys gain a sense of a task followed through to completion, and also learn valuable experience in working together for a better community.

Coles' influence has permeated other departments so that Salem High School is unique in its appreciation of soil and water conservation. During the last year, he was instrumental in having a number of conservation films shown to the general science classes taught by Anne R. Palumbo and Charles B. Lutz; biology classes taught by Evelyn C. Magsam and Anne P. O'Donnell; home economics classes taught by Anne Sickler, Eleanor Dickinson, Katherine Lawrence and Stephanie Mulford; a world history class taught by Edwin Bacon; and the Problems in American Democracy class taught by Lillian S. Ackley. A field trip was made by 150 pupils in Bacon's world history classes to view conservation work in the Salem County work unit.

The importance of Coles' work caused him to gain recognition in a much wider field and lead O. E. Kaiser, State Supervisor of Agricultural Education in New Jersey, to select him as the vocational agriculture teacher to represent New Jersey on a panel discussion in Philadelphia on "How May Vocational Agriculture Help to Develop a Conservation Program?"

Having lived to see his hopes accomplished, Coles is not content to stop there but even now, with vast enthusiasm, is making plans for a brighter future for his vocational agriculture boys. For example, realizing the importance of keeping abreast of current developments, he is advocating that his boys become regular readers of SOIL CONSERVATION Magazine and is encouraging those who are able to subscribe to it.

DISTRICT BRINGS PROGRESS.—"Phenomenal progress" that has been made in agriculture in Seminole County, Ga., during the past 10 years is attributed to assistance of the Soil Conservation Service through the Flint River Soil Conservation District by Ed Kelly, Hereford breeder and district supervisor of Donaldsonville, Ga. Kelly cites farm planning, terracing, introduction of new grasses and legumes for pasture development and their proper fertilization and maintenance, and especially drainage of areas that previously were of no value to the farmers or the community.

C. O. Buford, church pastor, supervising Troop 10.

CONSERVATION CLINIC FOR SCOUTS

By LEON J. McDONALD

PLANTING, seeding, and fencing ten 2-acre wildlife plots in one-half day was the outstanding accomplishment of 100 Boy Scouts during Oklahoma's first "Soil Conservation Clinic for Scouts," held near Shawnee, Okla.

Plans for the clinic did not happen over night. Credit for the idea goes to Roland Lee, work unit conservationist of the SCS at Shawnee. About a year ago, Lee, working with district supervisors and officials of the city of Shawnee, developed a conservation plan for controlling erosion on the land within the watershed of Shawnee Lake, the city's water supply. Application of the treatment planned in cooperative agreement between the city and the Shawnee Soil Conservation District had made remarkable progress. Eroded areas had been planted to grass, diversions had been constructed, gullies had been plugged and sloped, small dams had been built, and other practices had been applied to the watershed to hold the soil in place and prevent the lake filling with silt.

Note.—The author is assistant State conservationist, Soil Conservation Service, Oklahoma City, Okla.

Experience as a Scout enabled Lee to see that the wildlife phase of the over-all plan presented an excellent opportunity to use Boy Scouts productively and at the same time give them valuable training and experience. Of course the city could hire men to do the work; but Scouts would miss the needed training. Lee discussed his idea with Paul Silvey, district chairman, and Buddy Baptist, area director, Boy Scouts of America. They were pleased with the idea.

Representatives of State and Federal agencies were consulted. District supervisors grasped this opportunity for "Greater Service" and from all parts of the district, people showed a willingness to cooperate.

Members of 14 troops, representing every section of the county, participated. Troop sponsors included churches, schools, parent-teacher associations, American Legion posts, and civic clubs. Most of the boys camped in the lake area the night before "Operations Wildlife." Early Saturday morning, March 31, the Scouts, together with their scoutmasters and technical supervisors, assembled by troops to receive instructions from Roland Lee. Buses, trucks, and pick-ups took the boys to the 10 wildlife plot areas. These plots were located approximately one-half mile apart on the watershed.

On seedbeds already prepared with district and city equipment, the Scouts planted bicolor lespedeza, indigo, Russian-olive, pine, and cedar. These trees and shrubs were planted in contour rows. Some Scouts dug holes, others placed the plants in the holes, and a follow-up crew placed the soil around the roots and packed it gently. Switch

cane, sericea and Korean lespedeza seed were sown in all of the plots to provide feed and cover. Under expert supervision, Scouts fenced each area after planting and seeding operations had been completed. By noon the job had been finished.

During the afternoon, Scouts and leaders participated in boat rides, treasure hunts, and explorations and observed bird dogs perform during a quail hunt. The afternoon program was unusually interesting and informative.

That evening, in the light of a huge campfire, before a crowd estimated at 2,000, each troop put on a 5-minute skit. Roland Lee explained the significance of the day's activities, and visiting dignitaries lauded Scouts and their co-workers for a job well done.

Scores of Boy Scouts returned home with a better understanding of what it meant for the land, too, to "Be Prepared."

THE BUSINESSMAN'S STAKE IN SOIL CONSERVATION

By A. E. HUNTSINGER

Chairman, Agricultural Committee, New Mexico Banker's Association

I AM glad to have a part in the furthering of soil conservation.

I have spent 38 years in banking and during those years I have seen many changes and some very difficult periods, an unprecedented depression and two world wars.

As individuals, we have little control over either depression or war. What we can do is to work for sound government and urge in our community that development of better living conditions for all the people—which, in turn, will develop better citizens.

While the United States during the past 100 years has developed the greatest and most efficient industrial system in the world, we have at the same time been engaged in using up or destroying our natural resources at a faster rate than any other nation has ever done.

Research, energy, and inventive genius have been responsible for our rapid industrial development, while leaving to Federal and State Government the entire research program supporting our agricultural plant.

Will our industrial system continue to develop when our natural resources are gone? It must not be overlooked that some of our natural resources are not renewable and that when they are exhausted, we must look for substitutes or import the raw materials. No other nation originally had the great supply of available natural resources as the United States once possessed.

We had oil, gas, coal, iron, copper, salt, sulphur, and many other nonrenewable natural resources. We had our vast forests, the finest in the world; our great river systems, fed by a bounteous rainfall; and we had a fine underground water supply which gave us artesian flowing wells in many parts of the Nation. Our wildlife and fish were in such abundance that we felt they could never be exhausted; and we had the finest soil in the world, adapted to a highly varied agriculture.

What have we done to these resources? We recklessly harvested our forests without thought of providing for reforestation of the cut-over lands that would have continued to produce wood for us as long as people inhabit the earth. We could easily have practiced good forest management from the very beginning.

Check the situation in your own State and see what destructive methods have done to your timber. Many of your large lumber companies have cut out and moved out, and you have nothing to show for the great virgin forests that formerly clothed these lands.

We impoverished or ruined much of our finest agricultural and pasture land by poor farming methods and overgrazing. We mined the soil without regard to replacing any of the elements that were taken out by crops and by grazing or allowed it to wash or blow away with little thought of what we were doing. As these things took place, many

farmers quit their farms and moved to the city. Many lived in crowded areas where the social conditions were not conducive to good citizenship; some in surroundings conducive to the development of criminals or citizens who became a burden to society. We depended on the farmers who remained on the farms to produce food and clothing for the millions living in the cities and towns, and still we saw our land producing less per acre each year—over a long period of complacency.

What did we do to correct this growing wastage? As long as we had undeveloped land available, our population moved from worn-out areas to new sections. But today there is little undeveloped land in the United States that is suitable for cultivation.

The American businessman is an eternal optimist, refusing to believe that any problem is unsurmountable. And he shuns pessimists. The dreary tale of countless tons of topsoil going down our streams is a dismal tale to him. He may have enough black spots in his own business without taking on additional woes.

Businessmen, nevertheless, should support soil conservation programs. They should align themselves on the side of intelligence and sound action in this field of soil saving and building, just as they do in other fields of human activities. They support the Community Chest, the clinics, education, cancer control and treatment, and the war on typhoid, malaria, and tuberculosis. The Nation needs their support in the fight against erosion—another virulent and far-reaching form of disease. Erosion is at the bottom of many diseases. It probably is the father of the malnutrition that makes us easy prey to disease. I will not say the cure of erosion would nullify the need for other forms of aid to humanity, but there can be no doubt that its control would stop untold amounts of wastage and suffering, as well as reduce disease and other costly ills.

There are other reasons why some businessmen shy away from any identification with the soil-saving efforts and agencies. They are not all familiar with the full significance of soil saving. It is something that came long after they left the farm. They feel they haven't the time to acquaint themselves with the problem. Moreover, some of them are suspicious of any movement that has as its objective the improvement of conditions on the farm, recalling that many people have been trying to improve farm conditions as far back as they can remember. County agricultural agents have been on the job for more than 35 years and there have been farmer organizations aplenty across the decades.

Some businessmen believe that too many farmers are inefficient, or lazy, or indifferent, and are not sure they can be helped.

Another reason which dampens the enthusiasm of the city businessman in the erosion problem is their belief that food is merely another commodity and can be had for a price. They haven't accepted the truth that increased populations (55,000 new mouths to feed every 24 hours) and diminished productive acres have combined to make food the number one item of importance throughout the world. Food is not plentiful and it will become less and less plentiful, even though the bins may be temporarily full of one product or another—that is, unless we set about the job of safeguarding our remaining land and improving the wasted acres to a semblance of their former usefulness. Fortunately for all of us, both of these jobs can be done. And the businessman may have a most important part in helping with the job, as we shall see.

Businessmen have already made contributions to soil and water conservation. But they haven't begun to hit their stride. Some are joining organizations such as Friends of the Land, and are reading books and articles on conservation and hearing speakers on the subject at their civic-club meetings. They are generally open-minded on the subject. Others go a step farther and use part of their advertising appropriations to support and encourage various soil-saving movements. Farm-machinery and fertilizer manufacturers and other businesses directly concerned with the farmer have realized the need for soil saving and are joining in the general movement to bring about better conditions. Some of their advertising copy and illustrations are works of art. Several national concerns have underwritten the expense of publishing authentic accounts of the present soil situation and the remedies to better it.

The American Banker's Association has an agricultural committee and its activities percolate down into the States and the smallest communities where there are commercial banks. In many States the bankers make it their business to award through their association certificates of merit to farmers and others who are overcoming erosion on their lands. These certificates are presented at public

gatherings and entertainment is provided by the banks for the guests. Farmers take these awards quite seriously. Farm magazines are selecting "Men of the Year" and "Master Farmers," and in the selection and public endorsement of these men soil conservation is made one of the important yardsticks.

Recently at Omaha a large group of American businessmen met to discuss the need for soil and water conservation and spent 3 days in almost continuous discussion of these subjects. Every one present agreed that something must be done, and speedily. They all wanted to know what they could do. Several asked the question point-blank —"What can business do?" Naturally this set the whole convention thinking and it is to be expected that much good will come of it. When 299 leaders representing all phases of American business get to wondering what they can do to aid their country in saving its soil, something worth while is most likely to come of it.

Conservation, like charity, begins at home. Water and soil held on a businessman's home grounds and the land around his plant are just as important as that held anywhere else. Soil washed out of fields improperly cared for winds up in the streams and reservoirs.

The basis of scientific water control is to hold the rainfall where it falls and to let it WALK rather than run into the streams. When your lands (no matter how limited in area) are covered up in close-growing crops such as grasses and clovers, they hold the rainfall to a very great extent and permit it to seep into the soil and later into the streams. Soil is held in place and water is conserved in the soil. One of the recent findings by conservationists is that roads are sometimes among the worst offenders in the matter of silting streams. That is, the roads and road banks which so often are not stabilized (held by close-growing grasses) pour enormous quantities of soil into the smaller streams and on into the larger ones. Businessmen anxious to do their part may find, on looking, road banks of their own which need stabilizing and possibly also excessive losses of soil and water from eroding farm lands.

Here is probably as good a place as any to point out that a businessman does not have to be a trained conservationist in order to do the work I have suggested. A phone call to the Soil Conservation Service office in his city will put him in touch with the Government agency empowered and trained to do the job, and he will be offered free the services of a trained technician to advise him what and how, to do. Here is one of the most democratic agencies in the entire Government in that it will help anybody, literally anybody, to overcome the problems of soil and water losses on his own land.

If a businessman owning a piece of land, large or small, applies to a supervisor of his soil conservation district (and there are districts almost everywhere), the local Soil Conservation Service technician will go over the problem with the owner and suggest a plan to meet the needs.

Before the days of Soil Conservation Service (it was established in 1935) the insurance companies, which in many States were the owners of more land than Government or any other agency, were forced to provide overseers and farm managers and to spot tenants about on their farms in order to protect the buildings and to attempt to earn interest on the investment in the lands. The nature of the problem and the shallow margin of profit involved made it almost impossible for these companies to employ competent managers, or to secure competent tenants to operate the foreclosed farms, with the result that much of the land was abandoned and most of it became subject to erosion and deterioration. Land booms following the wars pulled them out of this hole, but the experience was neither pleasant nor profitable. Under present conditions these insurance companies, along with many other landholders, are availing themselves of the Soil Conservation Service technicians. These trained men, in response to a request made through the local soil conservation district, will lay out a complete soil- and water-holding plan for each individual farm, which, if followed, will hold and improve the soil, increase yields, and provide a basis for sound farming. The insurance companies and the land-owning banks can go a step further and insist that each mortgager include, along with other essential information as a requisite to the loan on the farm, a statement covering the extent he has followed the conservation plan laid out by the Soil Conservation Service technician, cooperating with the local soil conservation district.

Bankers and lenders of money generally are in a unique position to influence the actions of landowners for their own good and for the good of the lenders. Small-town banks have never been back-

ward in suggesting to the applicant for a loan the manner in which the loan must be used. The first words of the banker are, "How are you going to use the loan?"

Utility companies have great opportunities to take the lead in soil and water conservation and they should be among the first to embrace the opportunities. Their hydroelectric plants are run by water, a steady flow of which is essential, and their steam plants use enormous quantities of water. In order to acquire the lands which include the stream flow, these companies usually find themselves owning uplands not considered essential to their use. These lands are usually rented out or farmed haphazardly, for the utility is concerned with making and selling power, not in farming.

But the utility companies are very much interested, just as all other businesses are interested in the welfare of their country, and particularly in the welfare of the people they serve. There is no market for electricity on impoverished farms and certainly none on abandoned lands producing nothing. Electrical distributing companies, like all other companies, need the purchasing power of the people residing in their territory, as these are the people who can aid or cripple this industry. The utility cannot pick up its company and move elsewhere. It is bound down to its territory by dams, and power plants and poles and lines and buildings. Any company making use of hydrodevelopments knows the devastating results of soil pouring into the streams that provide the water to run the turbines. So the utility company has the usual interest of the average businessman, plus the increased interest by reason of its use of the regional streams.

Here for once the Government does not enter into the picture to heckle the utility operator. It says through the soil conservation district supervisors, "We will make a conservation plan on your land, regardless of size, and will work with you year by year in protecting the soil and saving water so that your properties will be more valuable and permanent. We will treat you just as we do all other landowners."

And while we are discussing utility companies, we may glance at another utility known as the city waterworks. Businessmen who fret at the cost of ordinary drinking and bathing water and at the difficulties encountered occasionally when some pronounced period of drought comes along and the water supply is rationed might consider the possibility of getting cheaper and better water by the simple process of protecting the watershed from which comes their water supply.

Watersheds are usually above the location of a city. One of the biggest costs in providing suitable water is that of filtering the water. Here most of the difficulty is caused by soil washing into the reservoir. A little money properly spent on the watershed might work wonders in eliminating the mud and in reducing costs of cleaning the water. Large cities will have to come to this method sooner or later. Dams are not the answer to the problem; filter plants are not always the complete answer.

A reasonable amount of money judiciously spent on a watershed above a city can not only save on filtering costs but may insure a steady supply of water. Watersheds can be stabilized. For various reasons it is the Government's job to do so, and similarly the city's job to help, with businessmen taking the lead.

Businessmen need the purchasing power of all kinds of people. Eroded lands mean eroded businesses. Therefore, they should line up on the side of soil conservation.

The land problem is national; accordingly, part of the cost of its solution should be paid for by the Government. Rural representatives in Congress are mostly soil-minded. City representatives are not generally so well informed on the subject and do not always give the support that's needed. Business can give help here.

Too many have not yet fully caught the vision that the earth is our home and the soil our storehouse. We can't get along adequately without plenty of food, and food comes from productive land. Our number one resource, therefore, is productive land. Fortunately it is being cared for by our conservationists. Much progress is being made, but the job costs something and farmers can't be expected to do it alone. They need financial help and technical assistance.

Businessmen can well afford to take part in helping the Nation push ahead with a sound land-use and land-protection policy. The agriculture of the country is ready; it is business that needs some extra enthusiasm.

Many of us here on earth cannot disassociate ourselves from the land and be happy. The pull of the soil is tremendous. Those who cannot operate a farm can often have a garden and thus keep stimulating contact with the mother of us all—land.

FARMERS PLANT TREES TO BATTLE THE WEATHER

What a well-developed shelterbelt looks like. These trees near Osceola, Nebr., in the Polk County Soil Conservation District, protect a field to the left from winds in summer; the road to the right from drifting snow in winter. Note shrubs on outside that prevent winds from blowing through, beneath branches of trees. Next to shrub row are medium-height trees, next to those the taller trees. The same pattern is carried out on the other side of shelterbelt, with the exception of the shrub row.

By A. E. FERBER

FARMERS in soil conservation districts in the Northern Great Plains States—Kansas, Nebraska, the Dakotas, Montana, and Wyoming—planted over 12,000,000 trees last year, and will exceed that figure this year if enough trees of the right kinds and sizes can be obtained.

Climate, rather than appreciation of their beauty, seems to be the force behind this drive for planting trees.

The trees planted last year by soil conservation district farmers went into 5,065 acres of field shelterbelts, 10,721 acres of farmstead windbreaks, and 813 acres planted specifically for wildlife, gully control, and other purposes. This is close to the same proportion as the total plantings since 1938, when soil conservation districts began operations.

Following are the totals, by States, 1938-50

	Field shelterbelts	Farmstead windbreaks	Other	Total
	Acres	*Acres*	*Acres*	*Acres*
Kansas	2,194	5,999	3,218	11,411
Montana	249	1,494	145	1,888
Nebraska	6,100	7,803	9,261	23,164
North Dakota	11,893	14,508	520	26,921
South Dakota	6,227	15,504	414	22,145
Wyoming	568	425	124	1,117

Note.—The author is regional forester, Soil Conservation Service, Lincoln, Nebr.

These plantings have been made on 62,597 farms, of which 20,856 are in Nebraska; 13,589 in South Dakota; 12,833 in Kansas, 12,282 in North Dakota; 1,680 in Montana; and 1,398 in Wyoming. North Dakota leads in acres planted per farm, with 2¼ acres. South Dakota is next, with almost 2 acres. Nebraska comes third, with almost 1½ acres. Montana is fourth, with 1⅛ acres. Kansas ranks fifth, with 1 acre. Wyoming is sixth, with 4/5 acre.

Some of the reasons for the greater emphasis placed on trees in the farm conservation plans, which Soil Conservation Service technicians have helped the soil conservation district farmers develop, are found in the storms that buffet this plains country, especially in winter. Storms of the last 3 years are still fresh in mind because they made big news—communications crippled, roads blocked, livestock unable to get to feed, and ranchers unable to get feed to the stock where the protection of trees was not provided.

Were it not for the trees, this snow would have been piled up in the farmyard around buildings, and in the feed lots, making it difficult to carry on the winter chores. This picture was made at the Chris Jorgensen farm near Hurley, S. Dak., in the Turner County Soil Conservation District.

Soil conservation district farmers in these States know from experience that trees protect both man and beast from the brunt of storms, make it easier

to keep homes warm, keep farmyards clear of drifts, help to conserve moisture for crops by reducing the blowing of snow from the fields, and in summer help to protect crops from wind damage.

Research has confirmed some of these observations.

The Lake States Forest Experiment Station at St. Paul, Minn., reports an experiment at Holdrege, Nebr., where identical test houses were used—one protected by a windbreak and the other unprotected. The temperature was held at 70 degrees, but it took 23 percent less fuel to maintain that temperature in the protected house than in the other.

The Montana Experiment Station at Havre reports on two herds of cattle wintered on identical rations. The herd that had the protection of trees and shrubs gained, during a mild winter, 34.9 pounds more per head than the herd fed in an open lot, even though the latter got some protection from a shed on the lot. During a really severe winter, the protected animals lost 10.6 pounds less weight per head than the unprotected animals.

Other effects of trees on a farm still need to be measured by research. Among them is the amount of benefit they are to crops.

L. B. McLean of Gilby, N. Dak., with the Grand Forks County Soil Conservation District, reported: "During the 1950 growing season, when moisture conditions were below normal, the grain was much heavier for 20 rods out from the shelterbelts than the average for the field."

Dana D. Jones of Artesian, S. Dak., cooperating with the Silver Creek Soil Conservation District, reports he got several hundred dollars worth of corn to feed his livestock in 1949 entirely because of his shelterbelts. That was a year when both summer and fall were dry. There were fields both north and south of the trees.

"There was mighty little corn south of the trees," he said. "North of them, however, there was a pretty fair crop for a distance 20 to 25 times the height of the trees. Farther away the crop tapered off, and near the north edge of the fields it wasn't so good."

Hot weather and south winds coming at a critical time raised hob with the unprotected corn, he noted. But they weren't able to ruin the protected crop.

Alfred Mjoen, near Maxbass, N. Dak., has a series of shelterbelts across his sandy land, with

This picture of a tree planting near Plainview, Nebr., in the Pierce County Soil Conservation District, was taken during the severe winter of 1948-1949, when snows were deep and drifts marooned many communities and farm families. This stretch of highway remained open. The drifts were in the trees.

strip cropping practiced in between. The trees and strip cropping have effectively checked wind erosion. They also conserve moisture by preventing snow from blowing away. Moreover, the road alongside Mjoen's farm and that of his neighbor was open during the severe snows and blizzards of the winter of 1948-49, while the county roads nearby were completely blocked.

During the same winter, Clarence Ernst, near O'Neill, Nebr., one of the Holt Soil Conservation District board of supervisors, was able to get feed from his stacks to his livestock—one of the few farmers in that area who could. The reason for Ernst's success rests in his shelterbelt, which kept the land clear of drifting snow so that a hayrack could pass freely from farmyard to stacks.

Dartman Brothers, near Creighton, Nebr., in the Antelope Soil Conservation District, were among those who found themselves unable to get to their livestock a few miles away for as long as a week at a time. But they didn't have to rely on feed dropped from an airplane. The reason: The cattle were protected by a good shelterbelt, behind which there was a good stack of straw to carry the stock over the lean periods.

"The shelterbelt drifted full of snow," Joe Dartman said, "but prevented drifting for quite a distance on the lee side. The cattle were comfortable and could get to the strawstack. They came through the winter in fine shape, but I don't think they'd have survived if it hadn't been for the trees."

Farmstead windbreaks also did yeoman service. The Monke brothers, Rufus and Willis, near New England, N. Dak., in the Slope-Hettinger Soil Conservation District, also Fred Ehlers near Hettinger, N. Dak., in the Adams County Soil Conservation District, were able to care for their livestock handily, while many others without good

windbreaks faced many hardships with their yards choked by mountainous drifts.

Do windbreaks really help the livestock? The research quoted earlier says they do. So, also, say many farmers, one of whom is A. T. Heinig near Wichita, Kans., who is in the Sedgwick County Soil Conservation District.

"I used to have no trees around the farmstead," Heinig observes. "During the winter months, snow drifted in the yard and feed lots. The house was hard to keep warm, the livestock suffered severely on windy days, and I nearly froze doing chores.

"Now, with the windbreak well established, there is surely a difference. My house is much easier to keep comfortable. Snow doesn't drift around the farmstead. It takes less feed for the livestock. In fact, the livestock and I hardly know it is winter unless we get out from behind the protection of the trees."

The rigorous climate still continues on the Northern Great Plains. Even this year, there was a scramble for equipment to open up lanes to feed supplies and to clear out the drifts from unprotected farmyards.

Many farmers hesitate to start a windbreak because they feel that it will be years before they get any benefit from the trees. There are many others, however, who have found that isn't so.

Warren Patefield near Laurel, Nebr., a member of the board of supervisors of the Cedar County Soil Conservation District, reports that even though this year's March storms were something to remember for a long time, his 3-year-old windbreak kept the snow from drifting into his farmyard.

Paul E. Ode and sons near Brandon, S. Dak., in the Minnehaha Soil Conservation District, found that all last winter a 2-year-old shelterbelt planted across the highway to the north kept the drifts out of the yard.

"The trees kept the road passable, too," Ode said, "even during the March blizzard. The only snow on that strip of highway was the snow that fell there. It was amusing to look at the snow here, and then at the place farther down the road where they were trying to open it up with snow plows."

In summer this same shelterbelt will help to protect the field to the north from wind erosion.

It is no wonder that farmers in the soil conservation districts in the Northern Great Plains are planting 12,000 000 trees a year and would plant more if they could get them. The Soil Conservation Service aims to help out by supplying half the number, but has not been able to boost its production to keep pace with the increase in planting.

No haphazard combination of trees will do. A successful windbreak needs a shrub row, an evergreen row, tall trees and some not so tall, some faster-growing than others—and all adapted to the area where they are planted. In the right combination, they produce an effective windbreak in the shortest time practicable.

The soil conservation districts in the four States where planting is heaviest have been aggressive in trying to enlarge the supplies of suitable planting stock. Supervisors of soil conservation districts in Kansas, Nebraska, and the Dakotas now contract with commercial nurseries for the production of desired trees.

The North Dakota districts association, in addition, has acquired its own nursery to supplement the planting stock produced by commercial nurseries.

FARM PONDS AND FIRE INSURANCE.—Massachusetts farmers who have ponds and who live within 3 miles of a fire-department station are now getting a lower fire-insurance rate. This is the result of 3 years' effort by the Berkshire Soil Conservation District headed by Chairman Jesse H. Fairfield.

The old basic rate was flexible, ranging from $1.15 upward and averaging about $1.50 per $100 value. The new base rate is $1.30.

Under the new schedule there is a *deduction* of 25 percent if the property is within 3 miles of a fire-department station and 500 feet of approved water supply—a hydrant, a dammed stream or pond, or a water supply that will provide 250 gallons per minute for an hour, and if the town is in grade C. For grade E towns the *deduction* is 10 percent, with variations for longer distances.

If the farm has a fire-extinguisher warranty there is a 5-percent *deduction* from the base rate. If there is an electric-rod warranty the *deduction* from the base rate is 10 percent. If there is electric wiring, all in conduit or cable, and the farm is located on a hard road which can be traveled at all times, the *deduction* is 10 percent from the base rate.

If the property does not have such protections, the 5-, 10-, or 25-percent deduction becomes *an addition to the base rate*. Chimneys without tile or metal flues get a 25-percent boost in rate.

"One farmer I know saved $250 a year on his insurance after having his cow-barn value raised from $19,000 to $31,000," says Fairfield.

The new rate became effective May 1, 1951.

Pineapples in contoured field. The mulch is left from trimming prior to harvesting. U. S. Allison, SCS, is at left; Fiddler, right.

STEEP BUT SAFE

By E. T. FIDDLER

MY farm, known as Cidra Farms, contains about 470 acres. It is located near the center of Puerto Rico at an altitude of about 1,500 feet above sea level, in the Torito Soil Conservation District. It is partly flat, partly rolling, and partly hilly, and is cut by sharp ravines which contain many springs and small streams. The average annual rainfall is 86 inches, with occasional torrential downpours.

The farm had been devoted some 20 years ago entirely to the growing of pineapples. When acquired by me in 1934 it had been abandoned and overgrown for about 4 years. At present about 280 acres are devoted to the intensive cultivation of pineapples and sugarcane. The system is to rotate the two crops on the gentler slopes, taking off three to four crops before replanting. This, I think, is unique in Puerto Rico.

In 1944 the Soil Conservation Service took an interest in the farm and agreed to help with the soil conservation work for a period of 5 years. The results have been wonderfully satisfactory.

All planting of both pineapples and sugarcane is done on the contour, with terraces. This has presented some interesting problems, not only on the steeper slopes but also, and especially, on land which apparently is almost flat. It has required quite a bit of ingenuity to lay out terraces and contours on these flat lands especially for the production of pineapples, which cannot stand wet feet.

Low spots which never produced well have now been drained under the guidance of SCS technicians. Pineapples now are planted on the flat lands and much heavier yields result. The hillsides are reserved for cane, which permits far less washing than pineapples.

One of the favorable results from the planting of pineapples on contours on relatively flat land is that I am able to take off an additional crop before replanting. This means a tremendous saving, as the planting of pineapple slips is very expensive. The double-row system is used.

The reason an additional crop can be obtained is that the pineapples on flat land now do not have to be planted on banks but may be planted flat on the ground. This is because of improved drainage. The second crop, which is always higher than the

Note.—The author is an attorney at Santurce, P. R., and the owner-operator of a farm near Cidra, P. R.

Excellent sugarcane (on contour) on Fiddler's farm.

first, does not fall over but tends to spread on the flat land. Little banking is needed after the first crop.

Heavy banking is now reserved for the third crop instead of the second. At the end of the second crop the banks formerly were so high that it would have been impossible to bank for the third crop without much more space between rows. The heavy banking of the third crop, which is now possible, brings up the production of the third crop to where it is almost equal to the first and second crops. The annual average production of pineapples by this system has been increased in the last 5 years from approximately 13 tons per acre to almost 17 tons per acre.

Contouring and terracing of lands planted to cane have given equally gratifying results but for a very different reason.

The terraces serve as roadways so that trucks can reach every part of the canefields even where the slope is quite sharp without the necessity of using oxen to haul out cane. The terracing and contouring, of course, prevent washing even on the steeper slopes. Cane production per acre on this farm compares favorably with cane production on the flat coastal lands and is higher than on any other farm in its part of the island. New varieties are being substituted for POJ-2878 which give a higher yield both in tonnage and in sugar.

The number of animals used for work purposes on the farm is now limited to a pair of oxen and three mules. The oxen are used only to finish off corners of fields in plowing which cannot be reached by tractors and in plowing hillsides which are too steep for tractors. The three mules are used entirely for cultivating between the rows of cane and pineapples. This, of course, represents a tremendous saving.

Two 40-horsepower tractors are used for farm work. Disk plows are used except for the hillsides. Soil is limed before each planting, the purpose being to bring the acidity to about 5 to 5.5 pH.

The ravines are wooded. No highly cultivated crops are planted on the slopes. The sharper slopes which are not in the ravines are now being devoted to pasture and the beginning of a dairy. By planting and management of pastures, I believe that the lands available for pasture will support 40 to 50 milk cows.

The sharp heads of ravines present a special problem which is being solved by cutting back the sharp banks and planting the slopes in heavy grass and kudzu. Of course, the dispersal of water into the ravines by the carefully worked out system of terraces helps greatly. Since the farm is on a watershed, the fall of which is very precipitous and the rainfall relatively high, it is not at all improbable that this productive farm would entirely disappear in the next 50 years if the steps now being taken to protect the ravines are not continued. With the work we are doing, with the valuable aid of the Soil Conservation Service, the present condition should be permanent. Even under the heaviest rainfalls, practically none of the topsoil is now washed away. The rain is absorbed and runs off through underground drainage, aided by deep subsoil plowing.

SPORTSMEN AND FARMERS

(Continued from page 26)

betterment. These farmers have planted 200,000 bicolor lespedeza seedlings and bordered them with strips of sericea lespedeza. Both are excellent quail feed.

The plantings help tie down farm land and protect it from wind and water erosion. They were made in corners and nooks not lending themselves to cultivation.

Sportsmen formed an association to cooperate

with the district and gave farmers more than $300 to buy seed and fertilizer. An 80,000-acre game preserve was established in the northern part of the district.

Another big important result came when the Texas Game, Fish, and Oyster Commission bought 7,200 acres for a game-management program and agreed with the district to determine how wildlife conservation could be dovetailed into east Texas soil conservation work. A restocking program is under way, with deer, beaver, and wild turkey released to run loose in the area.

The farmer, once leery of city sportsmen, takes a different view now that they come with fertilizer, wildlife plants, and understanding of the farmer's problems. That kind of cooperation makes the farmer more willing to let city sportsmen do some hunting or drop a line in some of the many fish-filled farm ponds being constructed in the district.

The Wildlife Management Institute plans to make another wildlife conservation award next year in connection with the *Press* contest.

FLEXIBLE PARTNERSHIP. — Today's farmer has learned that by working in groups with his neighbors he gets many things done which he might not accomplish alone.

Farmers in the Rucker's Creek area near Granbury, Tex., have been banded together in a community conservation group for several years.

Rucker's Creek conservation group inspects bluestem planting on King Ranch.

In 1948 members of the community wanted to plant some grass seed but they had no drill, so they sold enough $25 shares to buy one. Each shareholder was allowed to seed enough land at a 50-cents-an-acre rate to repay his investment.

In the next 2 years they purchased two more grass-seed drills, two fertilizer drills, and a spray. The group-owned equipment, valued at $3,000, is rented at a nominal fee to farmers throughout the Hood-Parker Soil Conservation District.

Group members repainted and repaired an abandoned schoolhouse which they use for monthly get-togethers. They help one another plant and harvest peanuts, harvest grass seed, build fences. They pool their tractors to build terraces.

Last spring the group met at the home of X. A. Meyer for its fifth annual field day. The men toured one another's farms while the women prepared lunch for the gathering of about 60 persons. Afterward, they held a soil conservation program and talked plans for the coming year.

—GORDON TOMPKINS.

TREES, BOYS, AND DAD

We have been planting seedling evergreens. This year we had 500 Norway spruce and 500 red pine from Soil Conservation Service. We also set out 50 multiflora roses along a fence.

The first trees we planted 5 years ago now stand 4 to 5 feet high. They really show up on our steep hillside. The trees start slowly, but after 2 or 3 years they really jump along.

One of the nicest parts of tree planting is that we get an opportunity to get acquainted with our 15-year-old son Will. I open the hole for the tree with a spade and Will slips in a tree from those parked in a pail of water.

We have a chance to talk over school work, the church youth organizations and what they are doing, the kinds of trees we are planting and what they can be used for, how plants and animals grow, and dozens of other facts of life.

A good many years ago we used to hoe cabbage alongside the boss, and we could talk over happenings, but nowadays with tractor and modern equipment there are not too many opportunities to work side-by-side and pass the time of day; so we are glad for the tree-planting opportunity.

We did the same with son Fred who now is a full-fledged Marine. We shall never forget the hours spent on our side hill working with the boys.

—TED TOWNSEND, Farm Editor, Utica, N. Y., Daily Press; a cooperator in the Oneida County Soil Conservation District at Sangerfield, N. Y.

U. S. GOVERNMENT PRINTING OFFICE: 1951

HISTORIC OCCASION.—At Kansas City, in June, officers of the National Association of Soil Conservation Districts came together for the first time to discuss problems with other agencies, in addition to the Soil Conservation Service. Major consideration was given to (1) Association affairs, (2) the program for greater service, and (3) the development of closer working relationships with other groups.

In consultation were brought representatives of the Soil Conservation Service, the Production and Marketing Administration, the Forest Service, the Department of the Interior, and the Office of the Secretary of Agriculture.

Association officers are pictured above. Top row—Kent Leavitt, Millbrook, N. Y., past president; Gordon McGowan, Highwood, Mont., director; Daniel M. McKeon, Ridgefield, Conn., director; Don Anderson, Honey Creek, Iowa, director; Otis Tossett, Lansford, N. Dak., director; W. T. Nolin, Hamburg, La., director; D. J. Doneen, Farmington, Wash., director; Emil W. Heck, Lawrence, Kans., president of Kansas association.

Middle row—Lawrence McKinney, Wingate, Ind., director; W. A. Williams, Jr., Santa Fe, N. Mex., director; George Barton, Manti, Utah, director; Clay H. Stackhouse, Wakeman, Ohio, National vice president; Waters S. Davis, Jr., League City, Tex., National president; A. B. Adams, Clarksdale, Miss., director; A. Threlkeld, Corinth, Ky., director.

Bottom row—W. A. Groom, Grand Junction, Colo., area vice president; Everett M. Barr, Liberty, Nebr., area vice president; Nolen J. Fuqua, Duncan, Okla., area vice president; Herbert B. Eagon, Delaware, Ohio, area vice president; W. E. Silverwood, Redlands, Calif., area vice president; W. F. Hall, Sparta, Ga., area vice president; George R. Heidrich, Charles Town, W. Va., area vice president.

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General Information

HOSPITAL FARM RECOVERS.—In 1945 the farm at the Marcy (N. Y.) State Hospital was badly afflicted with erosion. It wasn't producing a normal supply of food and feed to help meet hospital needs. Much of the land was poorly drained.

A complete conservation farm plan was developed and applied in 1946 by the local district and SCS technicians. By 1947 the land was "doing as well as could be expected." In 1948 it was "getting along nicely." In 1949 it was "much better."

In 1950—as reported by the N. Y. State Department of Mental Hygiene's *News*—the business and farm manager "looked at well-filled corn cribs and silos, and haylofts brimming over with alfalfa of superior grade, and estimated that production from reclaimed acres had increased 50 percent. One 52-acre field yielded as much corn and hay in 1950 as it did in two combined previous years. It took much less time for soil cultivation and preparation to produce 1950 crops than was formerly required to produce half of that harvest. . . .

"The average production per cow per year b. c. (before conservation) was 9,000 pounds. In 1950 it averaged 11,150 pounds per cow per year . . ."

This production from 58 milk cows is 58 times 2,150 pounds of milk above average for the year, or 124,700 pounds. At about $4.50 per hundredweight, it represents $5,611.50 in extra milk income.